

General Information

1992

Video: 2 Head Rotary
Audio: Linear Fixed 1
Channel

Covers Models
Akai VS-F261/ VS-F262
VS-F265/VS-F270
VS-F275/VS-F290

Matrix

Item	See Model
Mechanical Parts View	Akai VS-422/425 89/90 Book.
Mechanical Adjustments	Akai VS-F10/11 91/92 Book.
Replacement Pinch Roller	Akai VS10/11 91/92 Book.

Mechanical Parts List

Description	Part No.
6SET20X030SCM PKR FP	ZS-374458
6SET30X080SCM PKR CP	ZG-373900
Arm Coupling	ML-387311J2
Arm Damper	ML-391745J3
Arm Lid Opener	ML-387350J1
Arm Loading BLK 425EA	BL-V1102A140A
Arm Loading Brake	ML-387423J
Arm Review Part	ML-387277J3
Arm Shutter	ML-38734912
Base Drum	MA-387474J3

Head Motors and Miscellaneous

Part No.	Description
BV-V1123A410A	Lower Drum BLK X400EGN
BV-V1123A420A	Upper Drum BLK X400EGN
BM-401296J	Motor E20EL89 (Drum Motor)
HR-405340J	Head Combo HTMZA1121A
HE-390013J	Head HVFME0020A
BM-400682J1	Motor DFX-67B3VWB1 (Capstan Motor)
BM-387503J	Motor Part (Loading Motor)

Recommended Safety Parts

Item	Part No.	Description
D71, 72	ED-511907	D Silicon 1N4002 100/1.0A EM
D723, 74	ER-400959J	R Fuse V TO5 ERD2FCV 1/4W 1200G
FR201	ER-404093J	R Fuse V TO5 RF25SCVTP1/14WR56K
FR202, 501	ER-400729J	R Fuse V TO5 RF25SCVTP1/4WR47K
FR350	ER-331188	R Fuse H S10 ERD2FC 1/4W BR2J EOG
FR601	EQ-400153J	Relay POW AG2013 1TR 12V EM
RL101	ET-366365	TR 2SB1185 E,F
TR1, 5, 9, 13	ET-405622J	TR 2SD2061 E,F
TR12	BT-403873J	Trans Pow V1130 EO (Except EOG-V)
	BT-403883J	Trans Pow V1130 EOG-V (EOG-V)
	BT-403872J	Trans Pow V1130 EK
	BT-403252J	Trans Pow V1130 EA

Description	Part No.
Belt Capstan	MB-387289J
BID20X04STL CMT	ZS-464703
BID26X08STL CMT	ZS-563444
BID30X03STL CMT	ZS-425981
BID30X08STL CMT	ZS-321298

Cassette Load BLK 425EA	BV-V1102A150A
CMT BID30X08STL CMT	ZS-321298
Cord FFC P1 25 L=12013P (WP1)	EW-389313J

D LED GL451 Infrared (D1)	ED-390011J
D LED GL4800 Infrared (D2)	ED-390012J
Disk (2) Part	MT-390954J1
Disk Clutch Part	MZ-387298J3
Earth Brush Part AG	VT-401282J

Gear Eject	MZ-387335J
Gear Front Loading	MZ-387333J
Gear Slam Slider	MZ-387331J
Gear Toggle(S) BLK 425EA	MZ-V1102A090A
Gear Toggle(T) BLK 425EA	MZ-V1102A100A
Gear Worm Wheel	MZ-387332J
Guide Front (2)	SE-395554J
Guide Roller D8 PART	T-387394J1

Head Combo HVMZA1121A	HR-405340J
Head E H VFME0020A	HE-390013J
Holder D-LED	MZ-387430J
Holder FE Head Part B	MZ-402760J1
Holder FPC	SZ-387388J
Holder Lever Tension (2)	SZ-407187J2
Holder Photo Sensor	MZ-387446J1
Holder S Sensor	MZ-387445J
Holder Thrust Worm	MR-387406J

Idler Part	MI-387294J
Leader S BLK 425EA	V-V1102A070A
Leader S BLK 425EA	BV-V1102A080A
Lever Damper (S)	ML-387345J
Lever Damper(T)	ML-387346J
Lever Lock Release	ML-387344J
Lever Trigger	ML-387402J1
Lower Drum BLK X400EGN	BV-V1123A410A

Description	Part No.
Main Brake (S) Part	ML-387316J
Main Brake (T) Part	ML-387318J
Mecha Deck BLK F260EA	BB-V1130A020H
Motor DFX-67B3VWB1 (Capstan Motor)	BM-400682J1
Motor E20EL89 (Drum Motor)	BM-401296J
Motor Part (Gear Worm Part)	MZ-387330J
NUT Review	ZW-401776J

PAN20X02STL BZN PS1	ZS-404844J
PAN26X12STL CMT	ZS-467796
PAN30X06STL CMT	ZS-379350
PC () SENSOR	EA-387496J
Pinch Roller (2) Part	MP-404852J
Plate Upper (2)	MZ-406134J
PT BID26X06STL CMT	ZS-365149
PT BID26X10ST CMT	ZS-389950J
PT BID30X06STL CMT	ZS-358936
Pulley Trigger(2)	MR-391968J

Description	Part No.
PW26X060X050PSL	ZW-389923J
PW31X110X050PSL	ZW-389814J

Retaining Ring Grip	ZW-332843
Review Brake Part	ML-387321J
Roller Impedance	MR-387286J1

Slider Brake Part	ML-387324J1
Slider Front Loading	ML-387428J
Slider Pinch Part	ML-387431J1
Slider Trigger (2)	ML-404944L
SLIT W17X032X025PSL	ZW-374445
SLIT W21X040X050PSL	ZW-387492J
Socket 174074-5 SP (P1)	EJ-381837J

Socket Housing	EJ-387497J
5062-30-10-13 (PS1)	ZG-387467J
SP Loading Brake	ZG-392294J
SP Plate Earth	ZG-387348J1
SP Plate Holder	ZG-387320J
SP Pull Main Brake	

Description	Part No.
SP Pull Review Brake	ZG-387323J
SP Pull Slider	ZG-387468J
SP Pull Tension	ZG-387272J
SP Pull Toggle	ZG-387414J1
SP Push A/C	ZG-387438J1
SP Torsion Arm Damper	ZG-395567J
SP Torsion Coupling	ZG-387403J
SP Torsion Damper (T)	ZG-388290J1
SP TorsionDamper(S)	ZG-387421J
SP Torsion Load (2)	ZG-392831J
SP Torsion Load (S)	ZG-387417J
SP Torsion Load (T)	ZG-387418J
SP Torsion Release	ZG-387420J1
SP Torsion Review	ZG-387282J
SP Trigger	ZG-387443J
ST BID30X06STL CMT	ZS-358936
ST BID30X06STL CMT	ZS-358936
ST BID30X12STL CMT	ZS-336714
ST BID30X12STL CMT	ZS-336714
ST PAN30X06STL CMT C080	ZS-344754

Description	Part No.
ST PAN30X06STL CMT C080	ZS-344754
SW Leaf	
MTS1011MPC1	ES-373099
SW Mode Select	
MMS00070ZLBO (SW1)	ES-387465J
Tension Arm BLK 425EA	BL-V1102A050A
Tension Band Part	ML-390768J4
TR Photo PN268 (TR1)	ET-361490
TR Photo PT 4800 (TR2)	ET-390010J
TR Photo PT 493F (TR4)	ET-390009J
Upper Drum BLK X400EGN	BV-V1123A420A

Service Adjustments

- Precautionary items prior to adjustments
- The colour bar generator output should be 1.0 Vp-p.
 - The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).

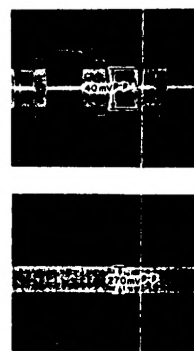
The following test tapes are required.

Test tape	Parts No.
TF-527BL	AT-711880
TF-530RFS	AT-751775
TF-532CBS	AT-751360
TF-553AT	AT-751785

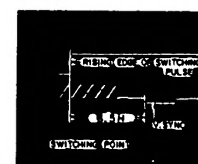
- STEP | ADJUSTMENT ITEM
- MODE and INPUT SIGNAL/TEST TAPE
 - TEST POINT and ADJ part
 - REMARKS (*) and RESULT (*)

6 VIDEO REC CURRENT

- "REC", PAL colour bar signal
- P2 (REC.CURR) ① pin, ② pin & VR1 (REC-CHROMA), VR2 (REC-Y).
- Connect an oscilloscope's CH-1 to P2 (REC.CURR) ① pin and CH-2 to ② pin.
- Set the oscilloscope's display mode to "ADD" mode and CH-2 polarity to "INVERTED". (Make sure to set the oscilloscope's "volt/div" SW position where the waveform is not distorted and CH-2 position should be the same as CH-1.)
- Turn the VR2 (REC-Y) fully, counterclockwise.
- Adjust VR1 (REC-CHROMA) so that the chroma REC current becomes 40 mVp-p at the burst signal area.
- Disconnect the input signal, then adjust VR2 (REC-Y) so that the Y REC current becomes 270 mVp-p.



- 1 PB SWITCHING POINT
- "PB", test tape TF-530RFS
 - TP1 (SWP), VIDEO OUT & VR301 (SW.POINT)
 - Connect an oscilloscope's CH-1 to TP1 (SWP) for triggering and CH-2 to VIDEO OUT.
 - Adjust VR301 so that the switching point is positioned 6.5 H from the V-SYNC left edge as shown.



7 VIDEO PB LEVEL

- "REC" → "PB", PAL colour bar signal
- VIDEO OUT & VR404 (PB LEVEL)
- Connect an oscilloscope to VIDEO OUT
- Make a recording on the tape, then play it back
- Adjust VR404 so that the PB level becomes 1.0 Vp-p



5 CARRIER SET & DEVIATION

- "REC", PAL colour bar signal
- TP401 (REC.Y) & VR402 (CARRIER), VR403 (DEVIATION)
- Connect an oscilloscope to TP401 (REC.Y)
- VR402 (CARRIER): 0.263 μs (3.8 MHz)
- VR403 (DEVIATION): 0.208 μs (4.8 MHz)



3 AUDIO REC BIAS

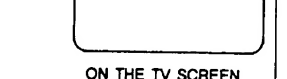
- "REC", No signal input
- P801 ① pin, ② pin & VR801
- Connect an AC voltmeter to P806 ① pin (GND side) and ② pin. (Never connect the AC voltmeter's GND to the VCR's ground.)
- Adjust VR801 so that the reading on the AC voltmeter becomes 2.4 mV

2 AUDIO PB LEVEL

- "PB", test tape TF-527BL
- AUDIO OUT & VR802
- Connect AC voltmeter to AUDIO OUT
- Adjust VR802 so that the reading on the AC voltmeter becomes -5 dBs

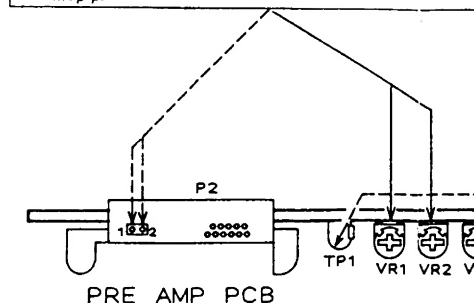
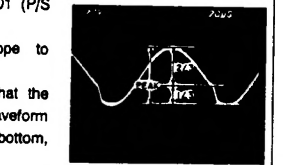
8 CHARACTER POSITION

- "E-E" (STOP mode), No signal input
- VIDEO OUT, TV screen & VC601 (IMS)
- Press the "DISPLAY" button once on the remote control to display the elapsed tape counter.
- Connect an oscilloscope to VIDEO OUT
- Adjust VC601 (IMS) so that the right end of the IMS signal becomes 49 μs from the H-SYNC as shown.

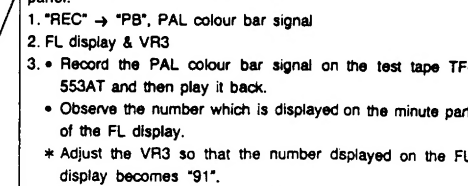


9 P/S AUTO SENSITIVITY (EM/EDG/EOG/EOG-V ONLY)

- "E-E" (STOP mode), SECAM colour bar signal
- TP701 (P/S SENS), VL701 (P/S SENS)
- Connect an oscilloscope to TP701 (P/S SENS)
- Adjust the VL701 so that the distorted point of the waveform becomes 1/3 from the bottom, as shown.

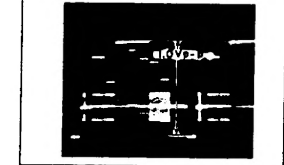


- 10 ENVELOPE DETECT (I-HQ)
- (This adjustment should be performed in the "TEST" mode.)
- To set the VCR to the "TEST MODE", press and hold both the "POWER" and "EJECT" buttons on the front panel, then plug in the AC power cord.
- The TEST MODE can be cancelled by disconnecting the AC power cord or simply by pressing the RESET button on the front panel.
- "REC" → "PB", PAL colour bar signal
 - FL display & VR3
 - Record the PAL colour bar signal on the test tape TF-553AT and then play it back.
 - Observe the number which is displayed on the minute part of the FL display.
 - Adjust the VR3 so that the number displayed on the FL display becomes "91".

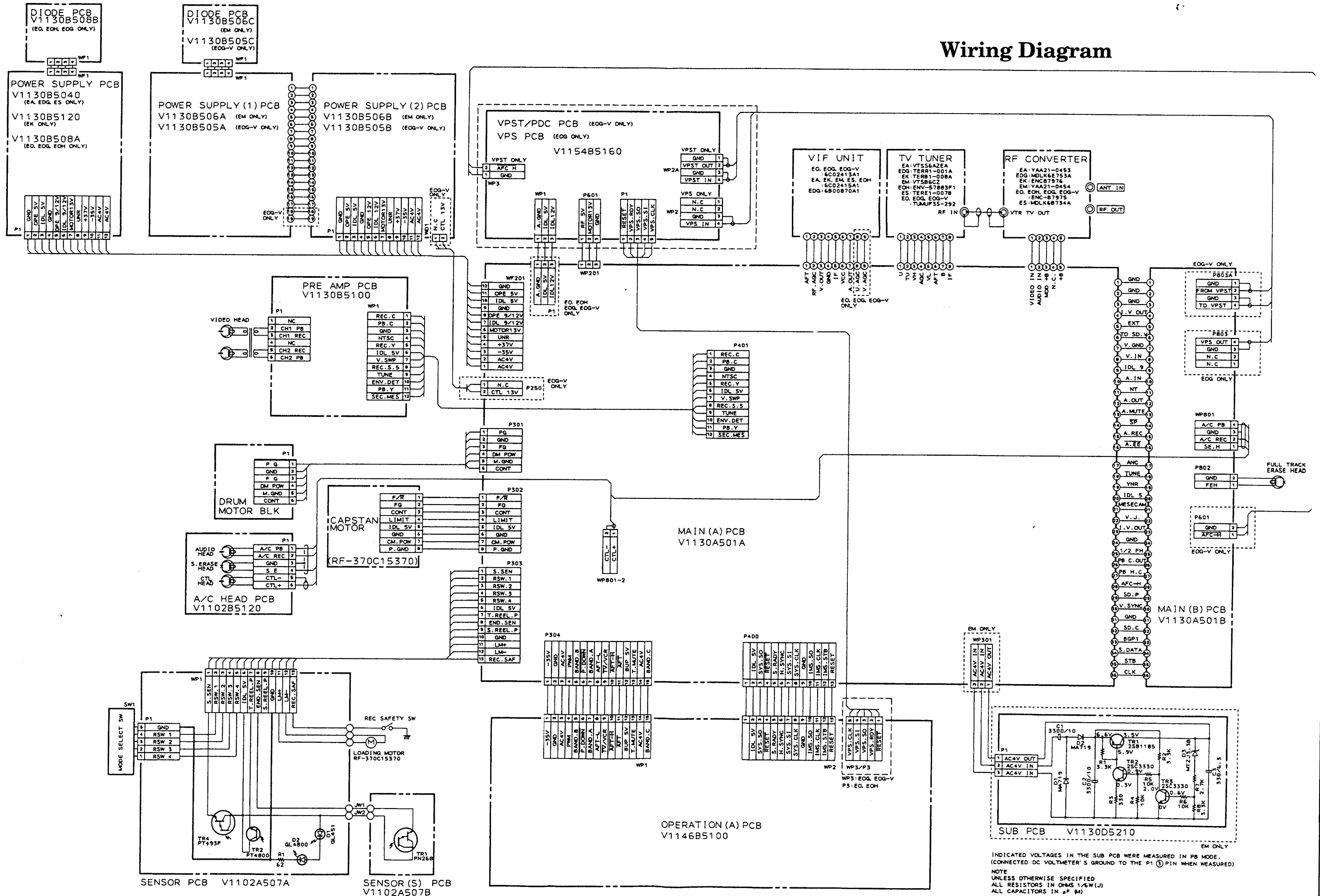


4 VIDEO E-E LEVEL

- "E-E" (STOP mode), PAL colour bar signal
- VIDEO OUT & VR401 (E-E LEVEL)
- Connect an oscilloscope to VIDEO OUT.
- Adjust VR401 so that the E-E level becomes 1.0 Vp-p



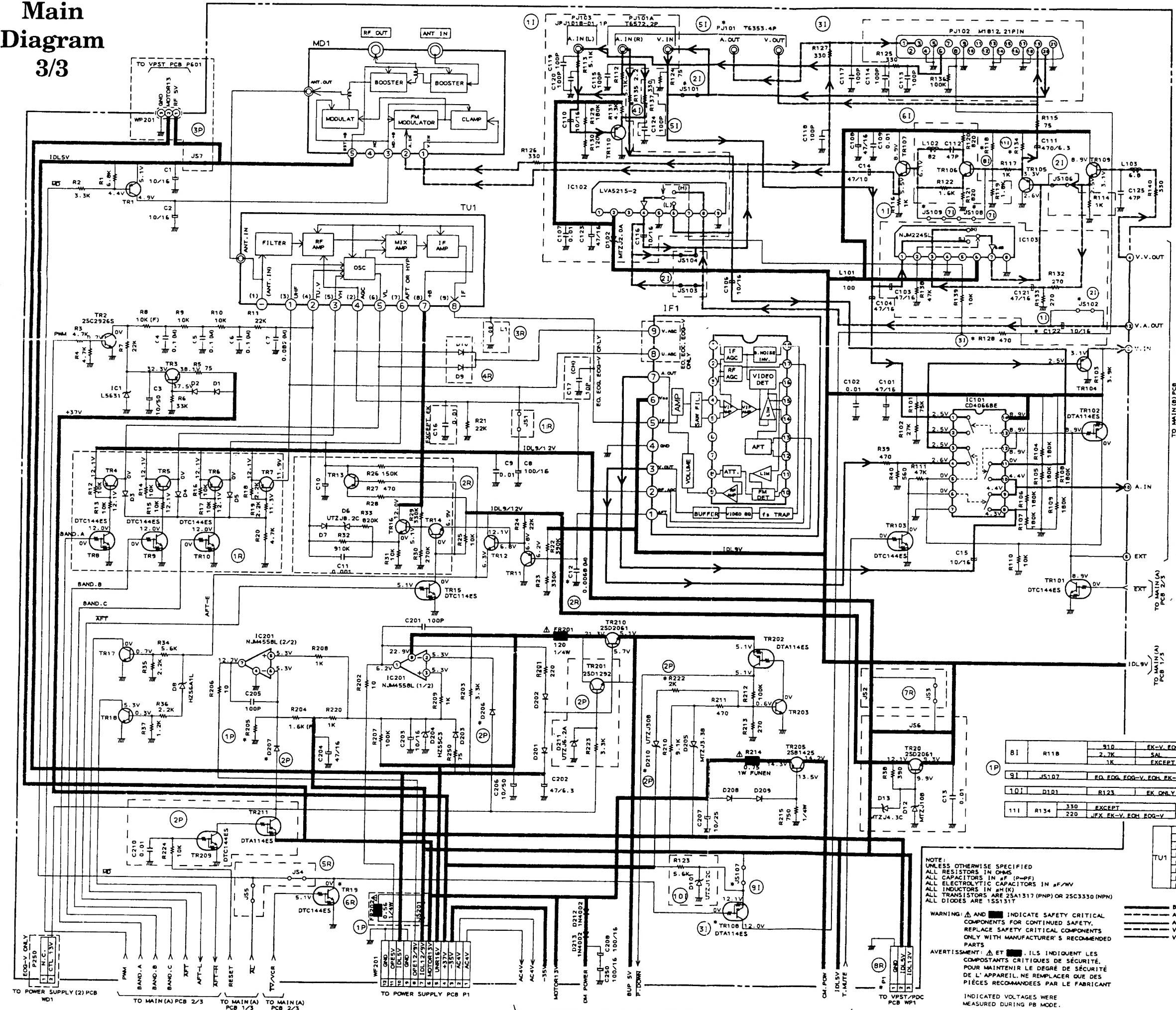
Wiring Diagram



[illegible]



Main
Diagram
3/3



1R	TR4, TR5, TR7	2SA1317	EXCEPT EK, EK-V
	TR8, TR9	DTG144ES	
	R12, R13, R14, R15	10K	
	R18, R19	2.2K	EOH ONLY
	D3, D4	1SS131T	
	TR8	2SA1317	
	TR10	DTG144ES	
	R16, R17	10K	
D5	1SS131T		
JS1		EK, EK-V	

2R	C10	TR13	2SA1317	EXCEPT EOH
		R26	150K	
		R27	470	EK, EK-V, EOG, EOG-V EA, EM, JXK-ES
			1/50	
		2.2/50	EA, EOG, EDI, JFX-ES	
	R28	910	EOG, EOG, EOG-V, EK-V	
		510	EA, EM, ES, EK, EOG, EDI	
	TR14, TR16	2SC3330	EOH ONLY	
	R29	330K		
	R30	270K		
	R31	10K		
	R32	910K		
R33	820K			
C11	0.001			
C12	0.0068(M)			
D7	1SS131T			
D8	1N4148, 2C			

3R	L1	1.0	EA
		0.02	JFX-EQH
		0.6R	EK, EK-V, EM
		NONE	EO, EOG, EOG-V, EOG, EDI, ES JXK-EQH, JXK-EQH

4R	D9, D10	1SS131T	EO, EOG, EOG-V
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5R	J54	EA, EM	7R	J52	EXCEPT EK-V J53	EK-V ONLY
	J55	EXCEPT EA, EM				

6R	TR19	DTG144ES	EXCEPT ES, EOG, EDI
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8R	P1	PH 3P	EO, EOH, EOG, EOG-V, EK-V
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1P	R205	1.5K(F)	EO, EOH, EOG, EOG-V, EK-V
	TR20	2.2K(F)	EA, EM, ES, EK, EOG, EDI
	TR20	2SD2061	
	C13	0.01	EO, EOH, EOG, EOG-V, EK-V
	R38	330	
	D12	D13	FR202
	J56	J5201	EA, EM, ES, EK, EOG, EDI

2P	R222	2K	EOG, EOG-V ONLY
	R223	3.3K	
	R224	10K	
	D206, D207	1SS131T	
	D210	1N4148	
	D211	1N4148, 2A	
	TR201	2SD1292	
	TR209	DTG144ES	
TR211	DTA114ES		
C210	0.01		

3P	J57	EXCEPT EOG, EOG-V
	WP201	EOG, EOG-V ONLY
	P250	EOG-V ONLY

1I	TR110	C121	JFX-
	IC102	C122	EK-V
	IC103	C123	EOH, EOG-V
	C103	R112	ONLY
	C105	R113	C115 EOG-V
	C107	R129	
	C110	R130	EA, EK-V
	C115	R131	D102
	C116	R132	R139
	C119	R133	PJ101A
	C120	R138	PJ101

2I	J5101	J5104	EXCEPT
	J5102	J5105	JFX EK-V
	J5103	R114	EOH, EOG-V

3I	PJ102	R125	EK, EOG, EOG
	C113	R128	EK-V, EOG-V
	C114	R136	EOH
	TR108		

4I	R135	JBX, JXK-
		EK, EOG, EOG, EOH, EK-V, EOG-V
		JFX- EO, EOG

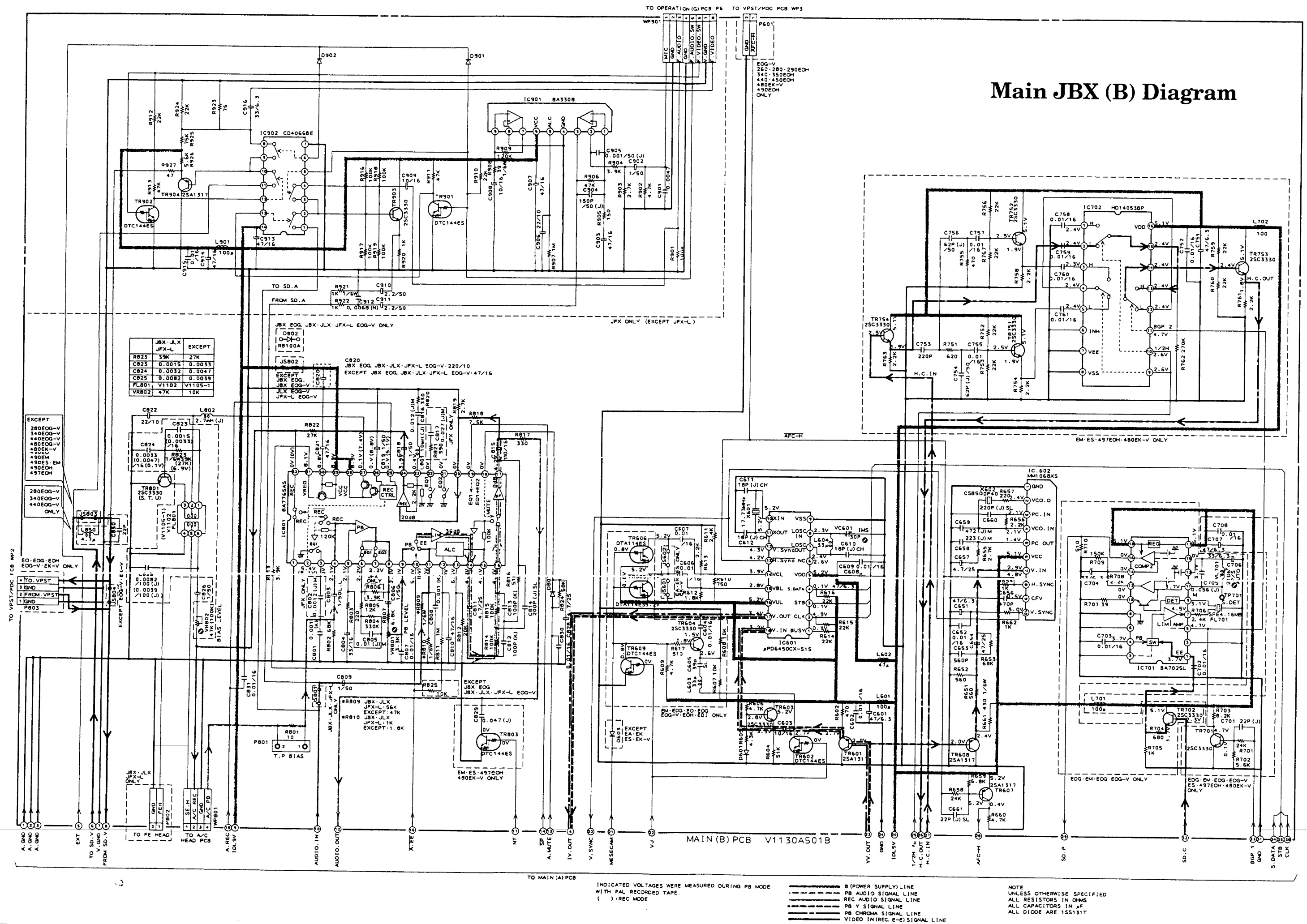
5I	PJ101	R137	EA, EOG, EM
	C124		ES, EDI

6I	C112	R122	SAL
	R119	L102	
	R120	TR106	
	R121		

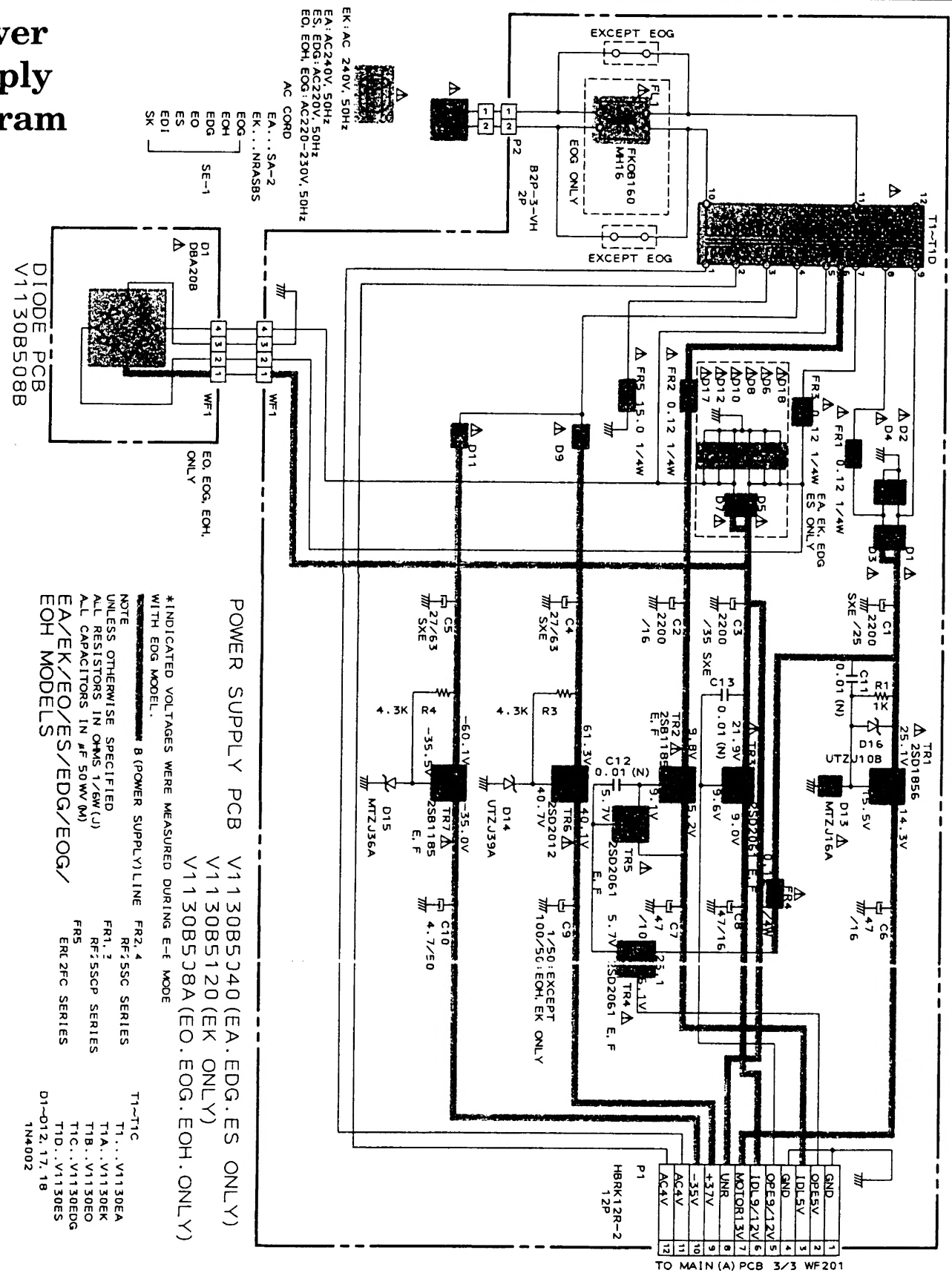
7I	J5108	J5109	EXCEPT SAL
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	J B X	J L X	J F X
	VTSS6A7 EA	←	←
	TER11-001A	←	←
	TER11-008A	←	←
	VTSS6C7	←	←
	ENV-578837	←	←
OG-V	TER11-007R	←	TER11-001R
	TR4P35-292	TER21-004A	←

MD1	YAA21-0453	EA
	YAA21-0455	EM
	ENC87976	EO, EOG, EOG-V, EOH
	ENC87976	EK, EK-V
	MDLK68013R	ES
	MDLK68333A	EOG
	MDLK67656A	EDI



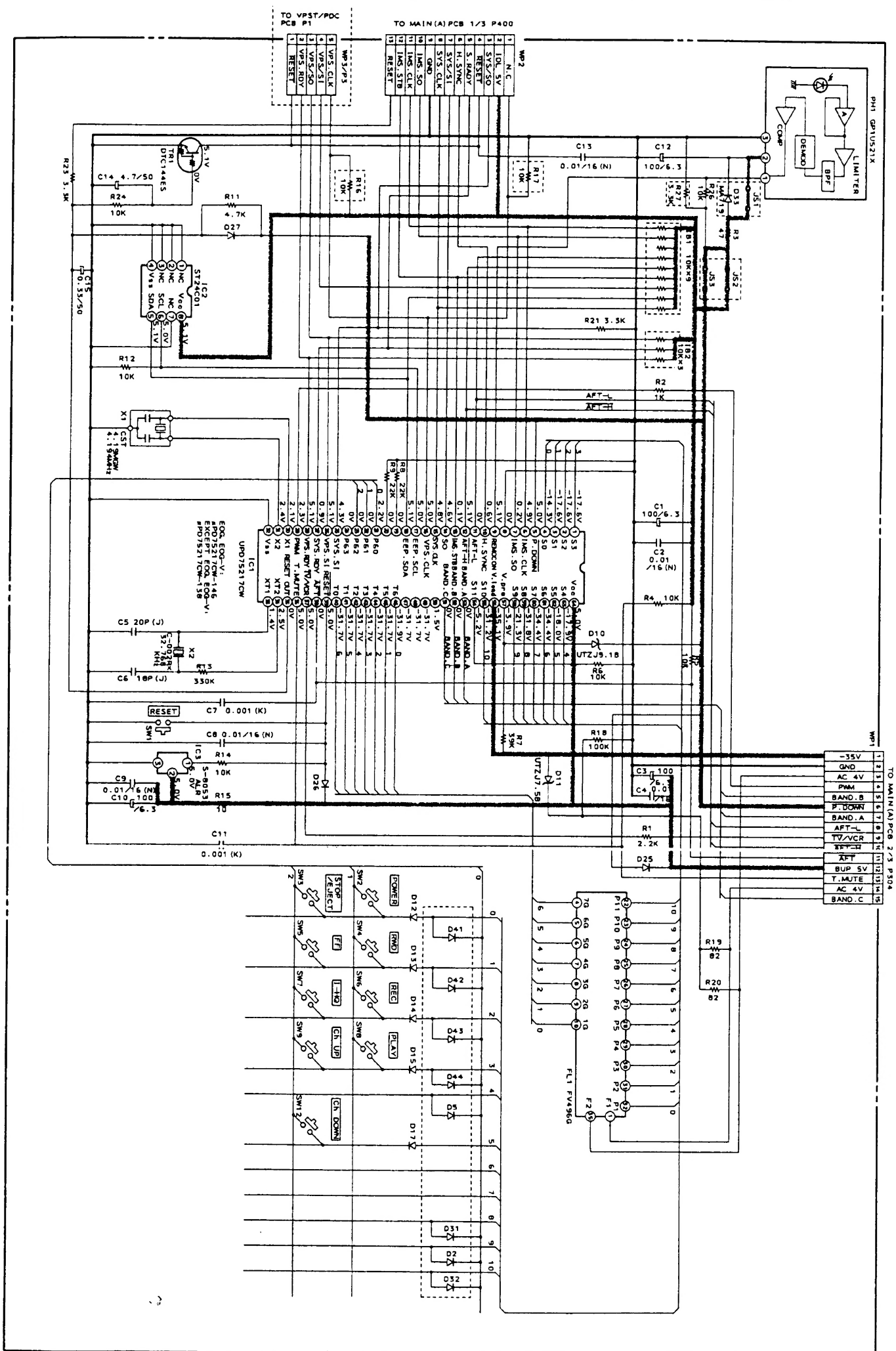
Power Supply Diagram



Operations JBX (A) Diagram

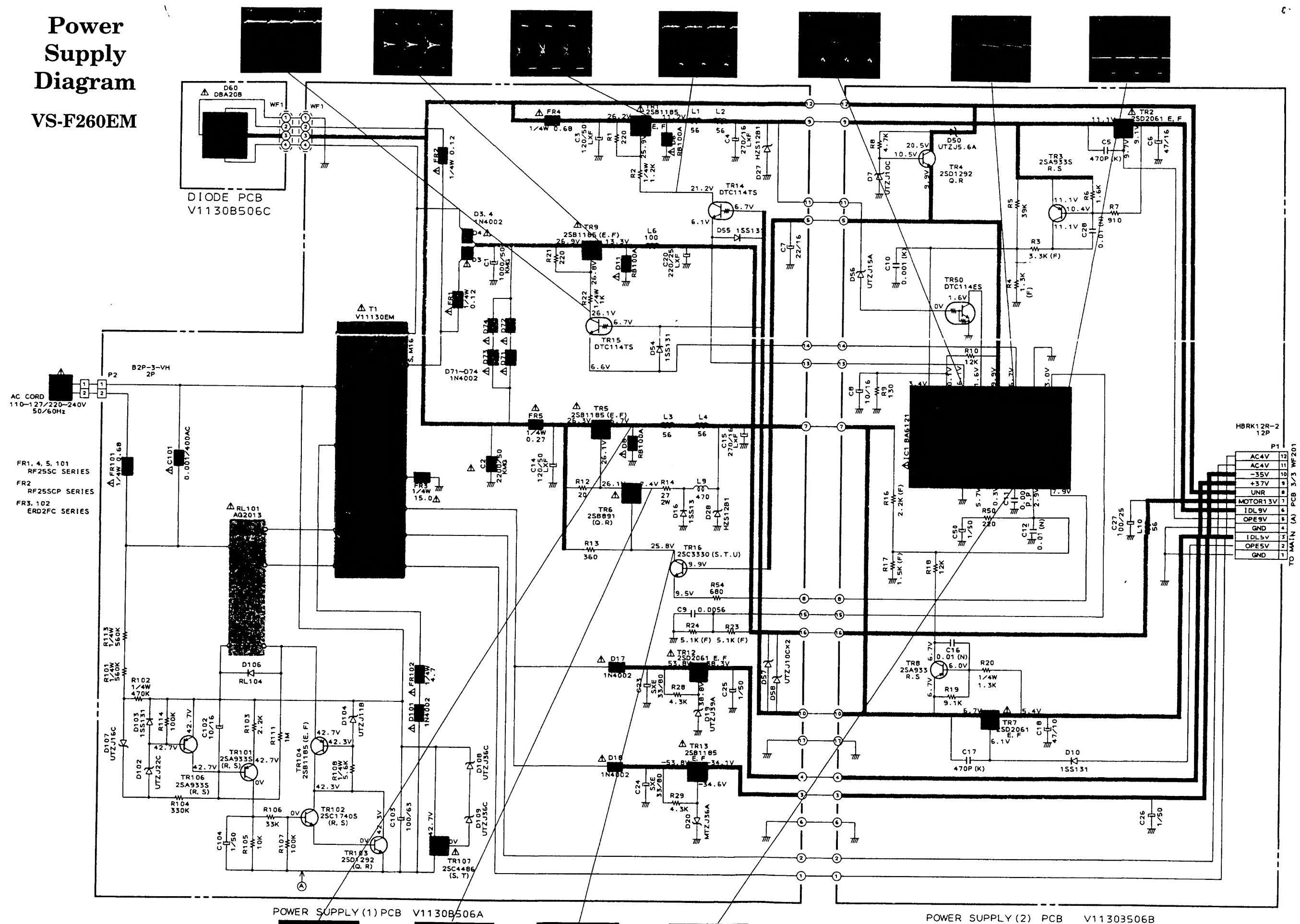
	E	A	EDG	E K	E M	E O	EOG	EOG-V	EOH	EDI	E S	S	SEG	S K	JFX-L (PAL)	JFX-L (SECAM)
D2						○	○	○	○							
D5					○						○				○	
D31																
D32								○	○*							
D33							○	○								
D41			○		○		○	○					○			
D42				○	○									○		
D43	○		○								○					
D44						○				○						
J51	○	○	○	○	○	○			○	○	○	○	○	○		○
J52	○	○	○	○	○	○			○	○	○	○	○	○		
J53							○	○		○			○	○		
R16	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
R17							○	○				○	○	○		
R27							○	○								
P 3						○			○							
WP3							○	○								

*: EXCEPT F265, F275, F455



Power Supply Diagram

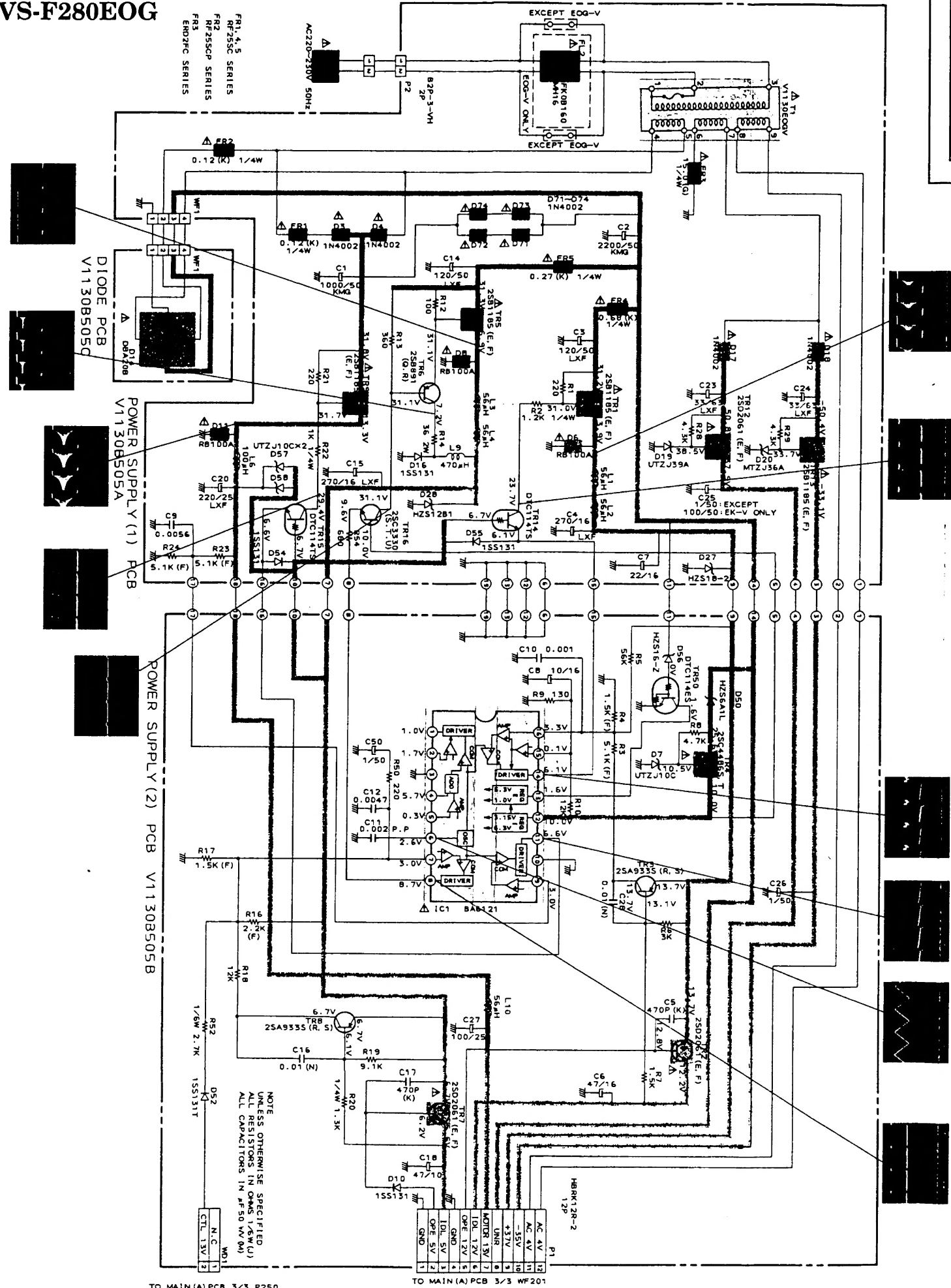
VS-F260EM



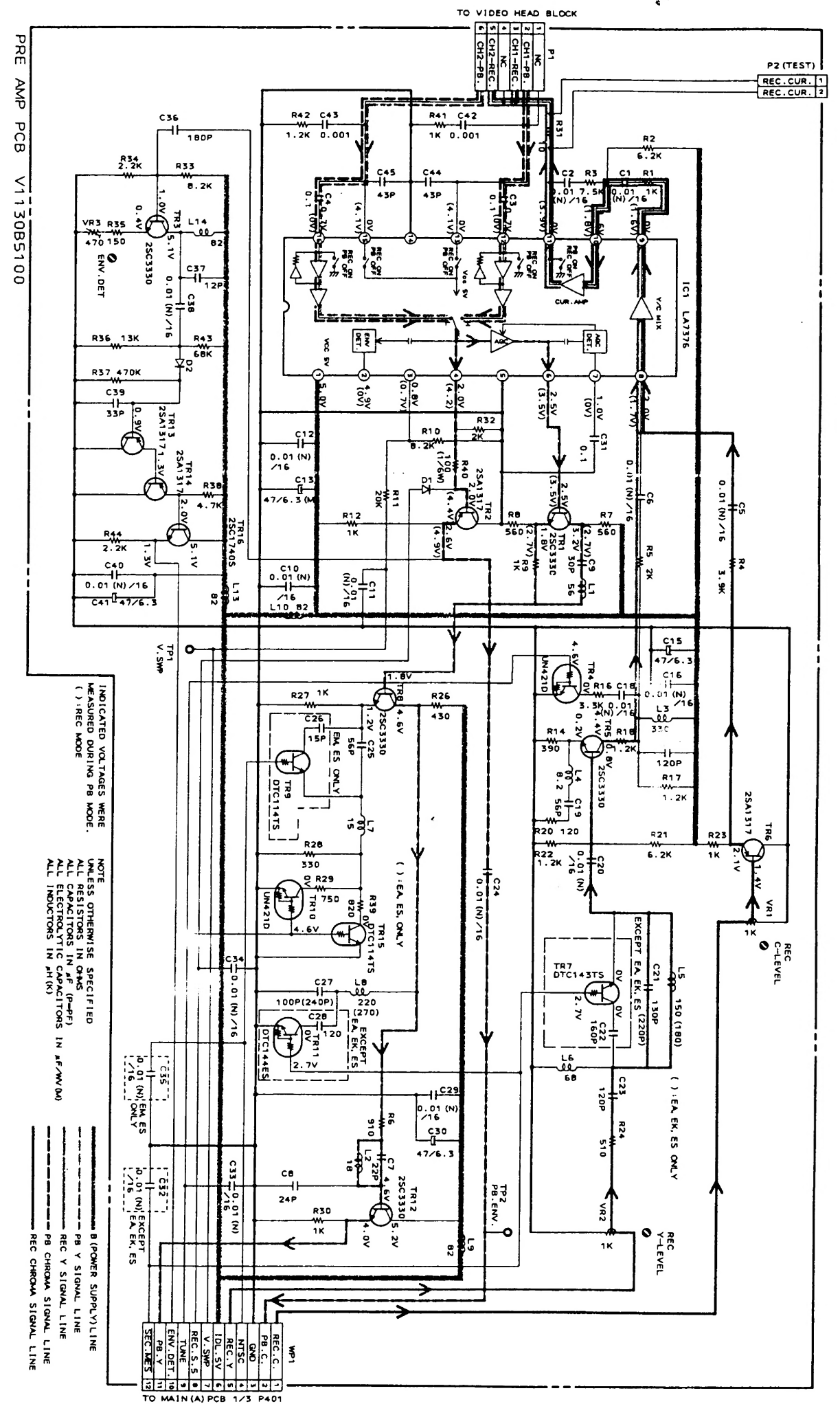
* INDICATED VOLTAGES WERE MEASURED DURING E-E MODE.
CONNECTED DC VOLTMETER'S NEGATIVE INPUT TO THE
ⓐ POINT WHEN MEASURED THE PRIMARY SECTION AND
PRIMARY INPUT WAS AC 220V.

* PHOTOGRAPHS WERE TAKEN DURING E-E MODE.
THE SCREEN'S FIRST LINE FROM THE BOTTOM IS DC 0V.

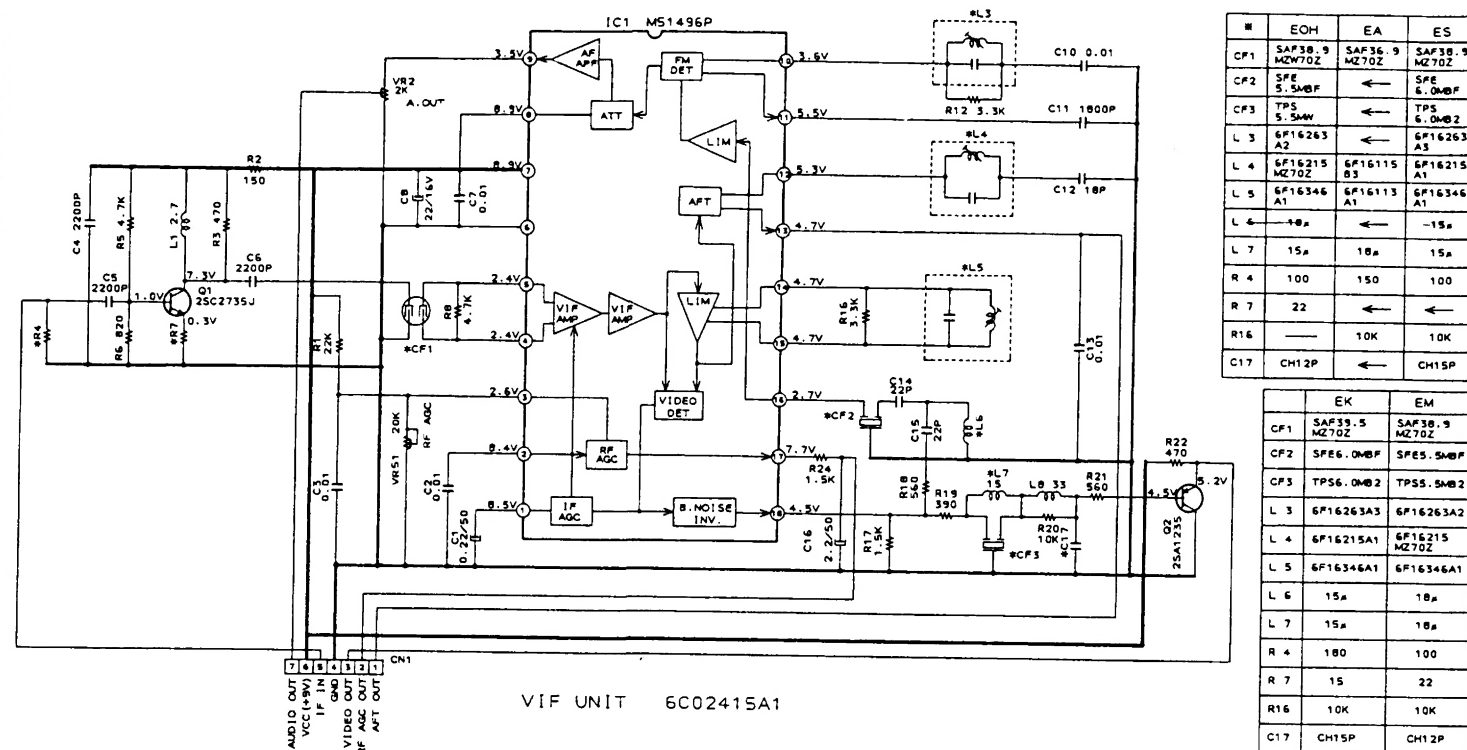
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μ F 50 WV(M)
ALL INDUCTORS IN μ H(K)

VS-F280EOG

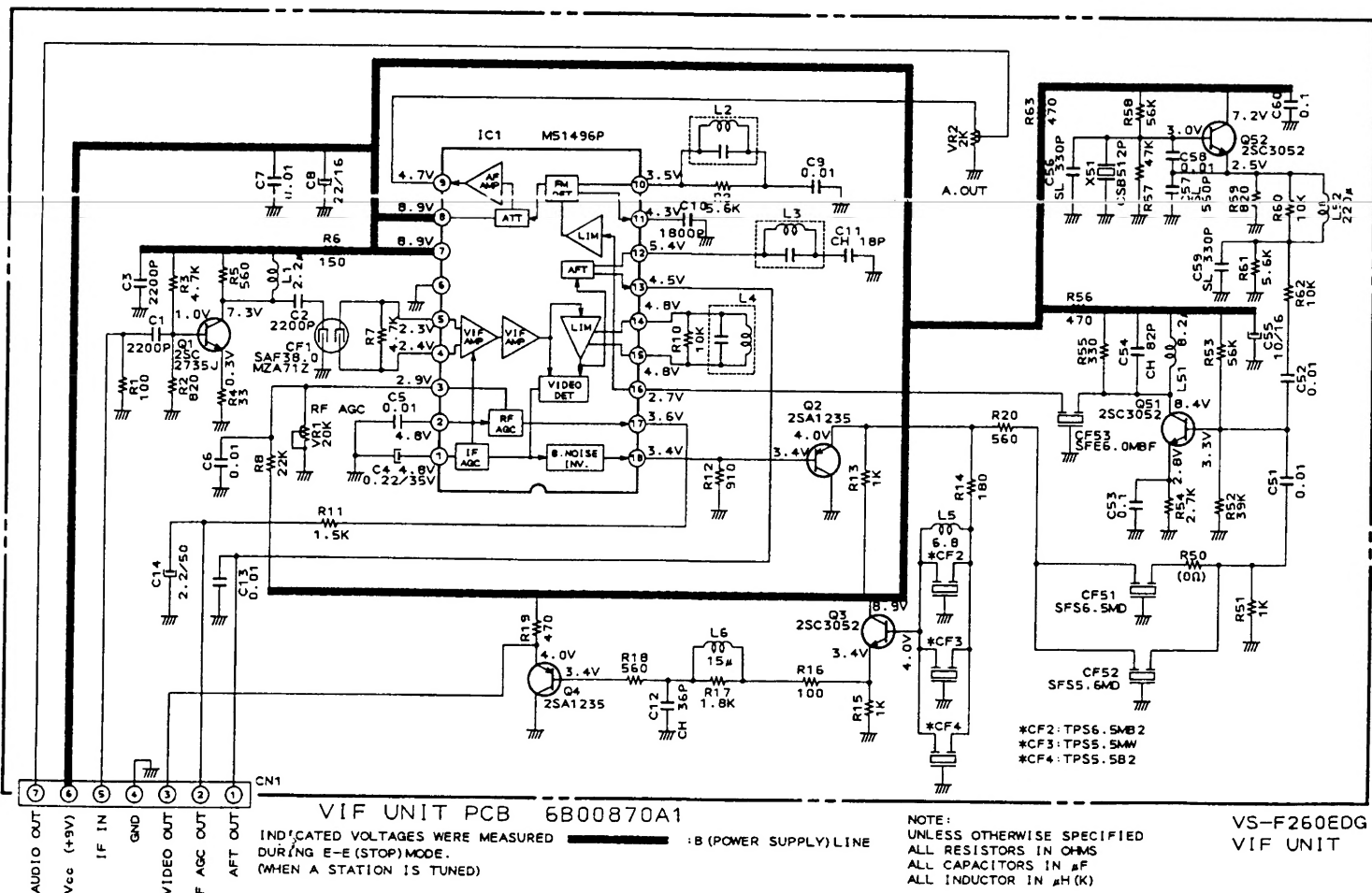
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PRE AMP PCB V1130B5100
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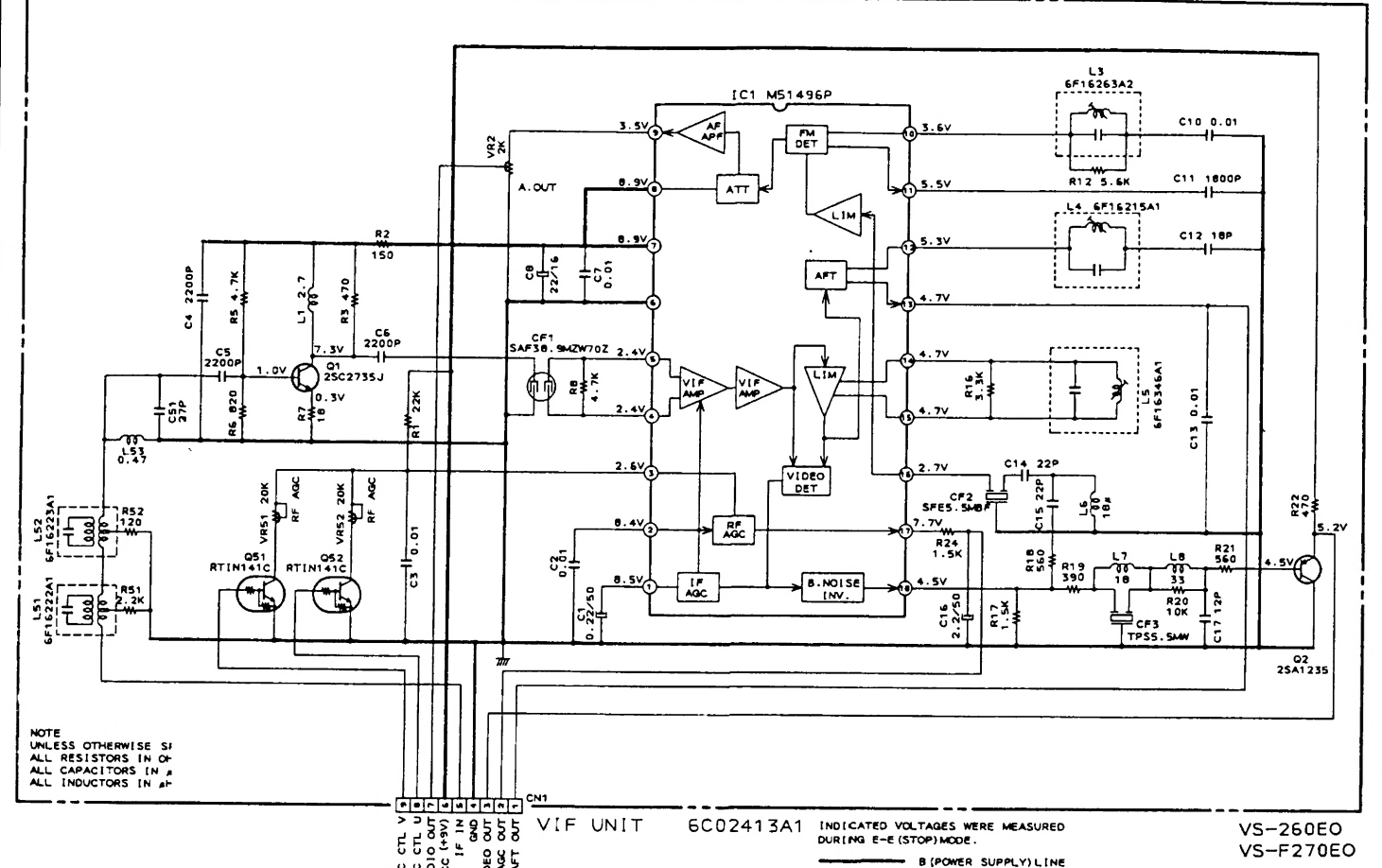
VIF Unit Diagram EA/EK/EM/EOH/ES



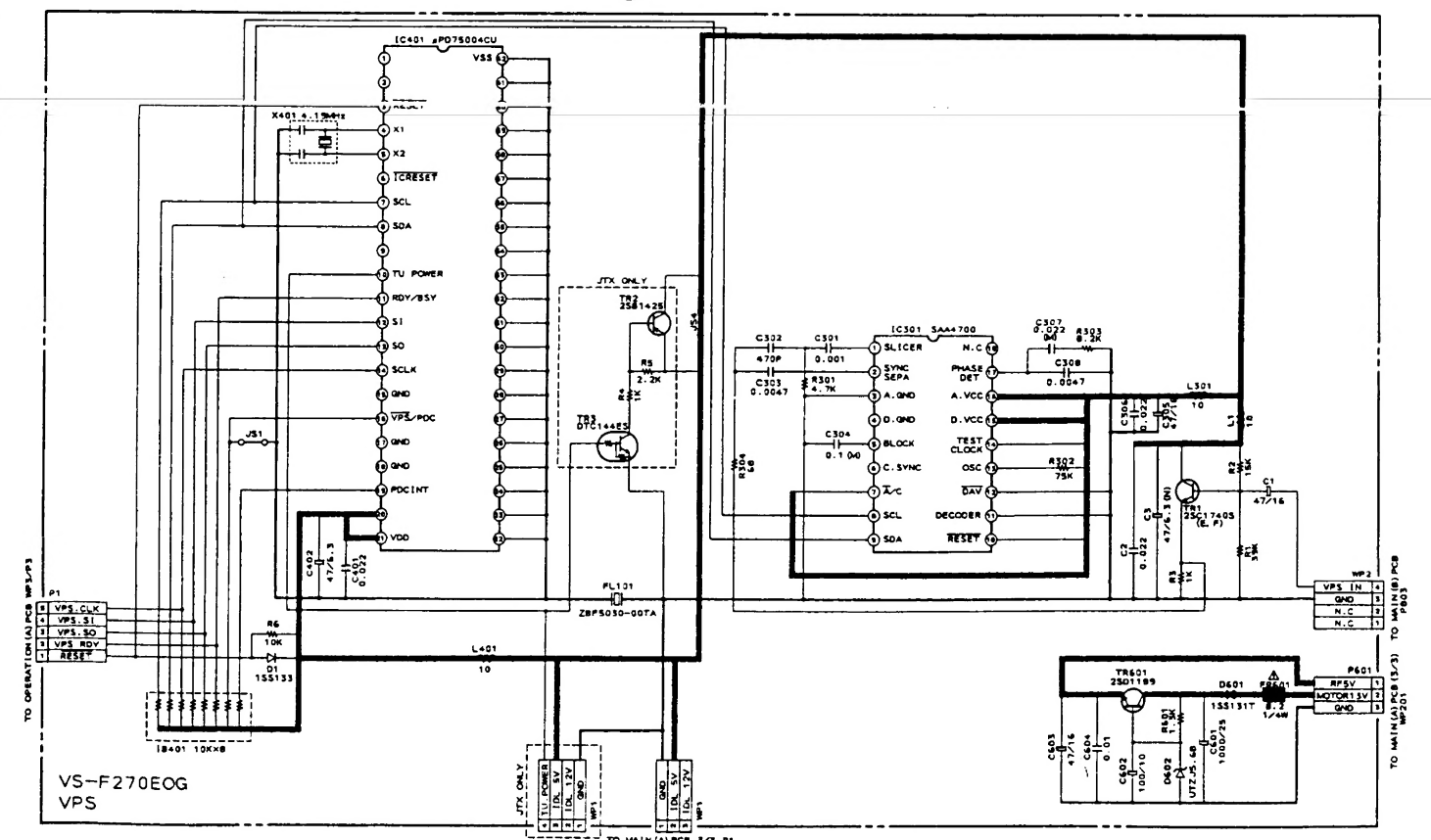
VIF Unit Diagram VS-F260EDG



VIF Unit Diagram VS-F260 EO / VS-F270EO/F280EO/EOG-V



VPS Diagram VS-F270 EOG



U MAIN (A)
CB 3/3 P1
-----, TO OPERATION (A)
PCB WP3/P3

